

# **Watershed Planning in NE Illinois**

*Holly Hudson*

Chicago Metropolitan Agency for Planning

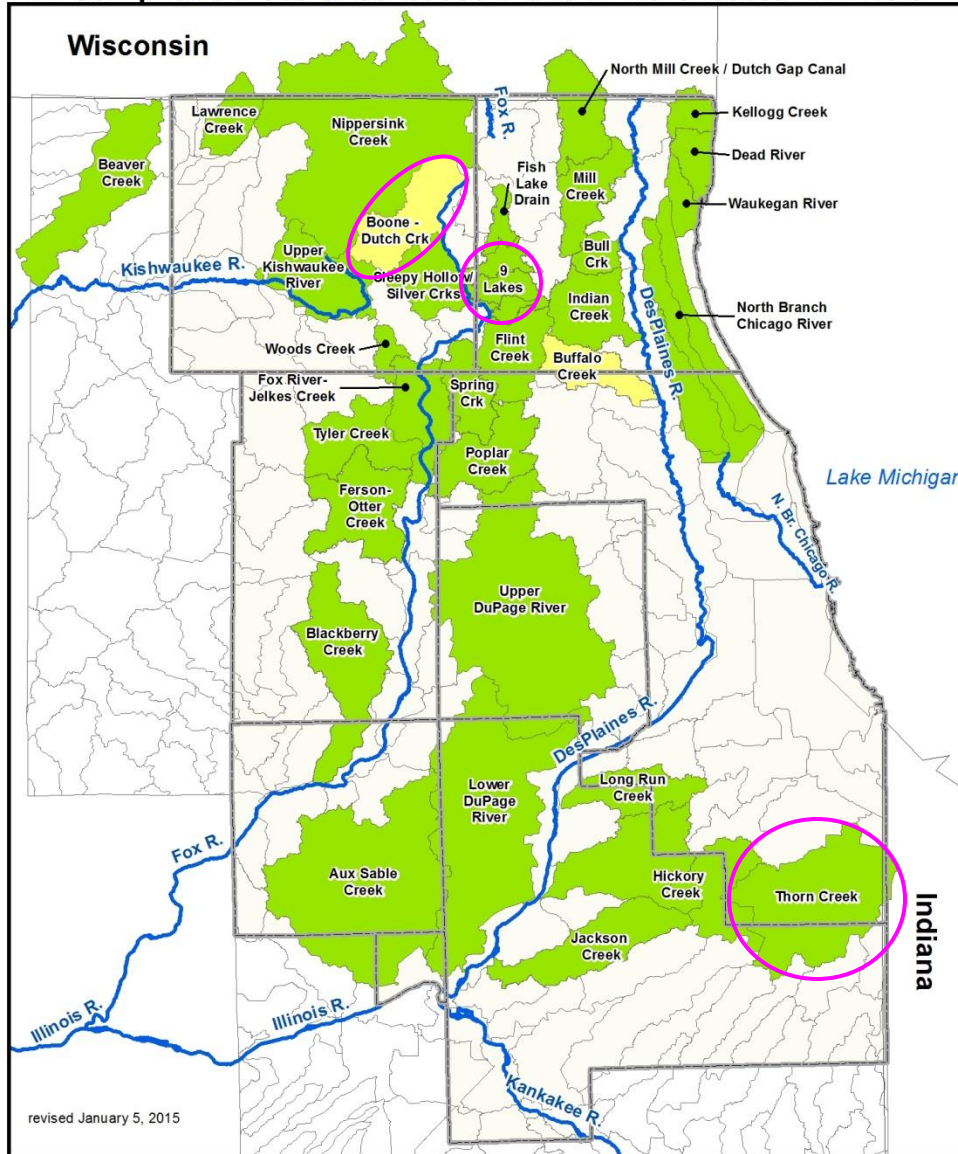
*Environment & Natural Resources Committee*

January 7, 2015





## EPA-compliant Watershed-based Plans in Northeastern Illinois



Watershed-based Plan  
Facilitators / Developers have  
included:

- CMAP (NIPC)
- Lake County Stormwater Management Commission
- The Conservation Foundation
- County Soil & Water Conservation Districts
- Local counties & municipalities
- Local watershed groups

# Path to Watershed Planning

- Federal Water Pollution Control Act of 1972 (P. L. 92-500)
  - *aka Clean Water Act*
  - *“... chemical, physical, and biological integrity of the Nation’s waters ...”*
- U.S. EPA
- Illinois EPA - Bureau of Water
- Regional agencies
- Watershed citizens and other stakeholders

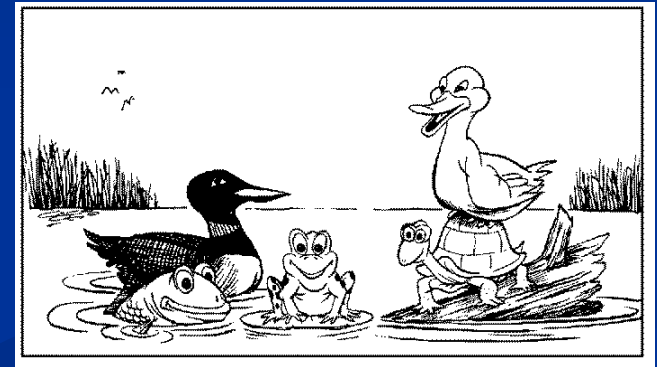
# CMAP = Areawide Water Quality Planning Agency

- Areawide Water Quality Management Plan
  - *Purpose: eliminate water pollution!*
  - *Approach: watershed planning*



# ***Why do Watershed Planning?***

- To protect & improve the health of the watershed by addressing NPS pollution
- To facilitate partnerships for problem solving
- To address problems that go beyond political & geographical boundaries
- To outline activities to improve water quality
- To provide eligibility for Clean Water Act §319 grant funds, & improve odds under other grant & technical assistance programs



# Watershed Planning Philosophy

- A bottom up, collaborative approach
- Create a useful plan that identifies specific problems and solutions that local communities can utilize to improve/protect surface water quality, groundwater quantity and quality, and other natural resources

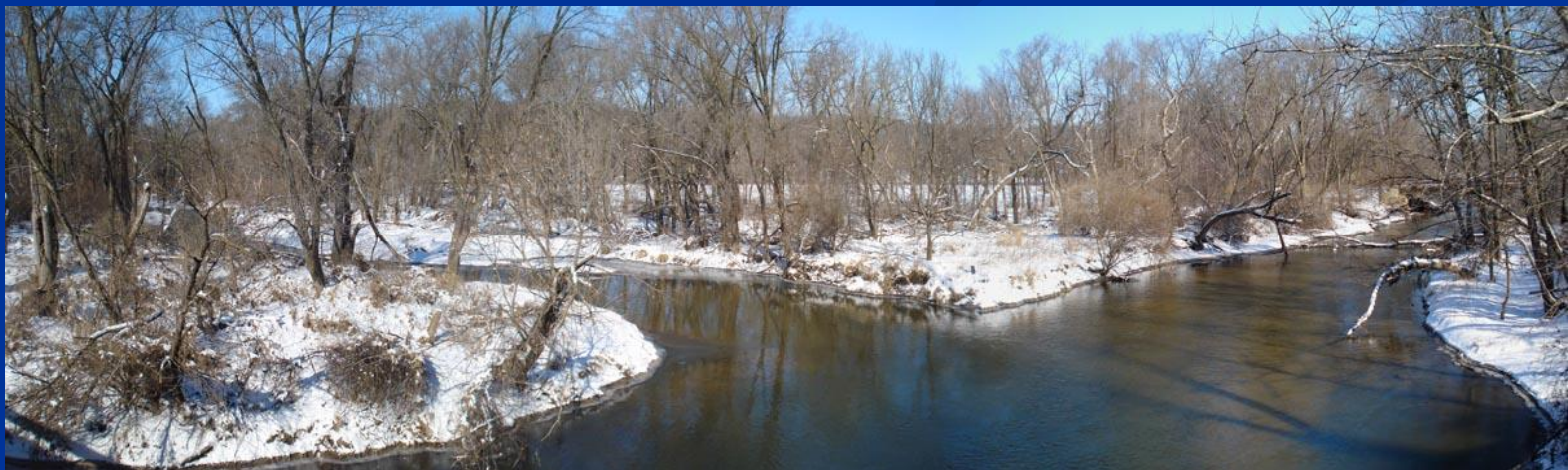


Photo courtesy of The Conservation Foundation

# A Watershed Plan is *NOT*...

- a zoning map
- a land use map
- a means to designate land uses
- a comprehensive plan
- a required part of local comprehensive plans\*
- a legally binding document



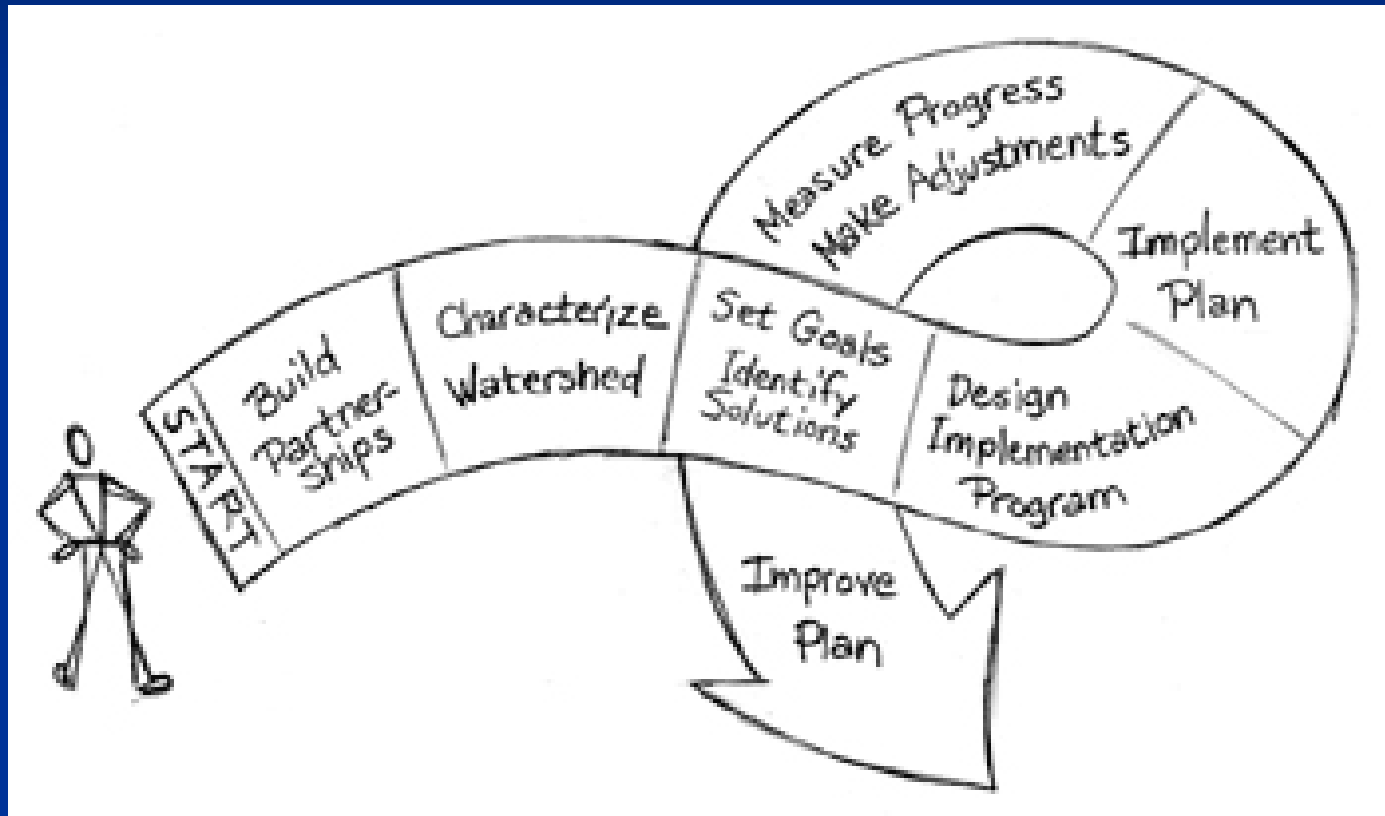


# A Watershed Plan *DOES*...

- Focus on a waterway and its tributaries
- Involve stakeholders in a cooperative partnership
- Establish goals and management objectives
- Analyze watershed problems
- Provide recommendations to help with point and nonpoint source pollution issues
- Recommend voluntary methods to protect and enhance water quality
- Develop an action plan for restorative and preventative efforts
- Supports applications for grant funding and technical assistance



# Watershed-based Planning Steps



*From Handbook for Developing Watershed Plans to Restore and Protect our Waters (USEPA, 2005)*

# U.S. EPA's 9 Minimum Elements of a Watershed-based Plan

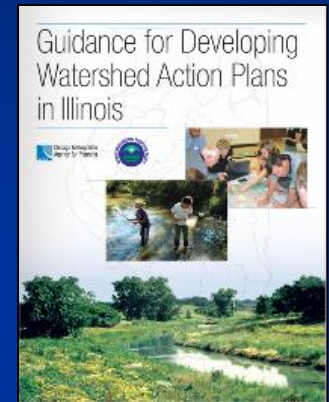
- a) Identify & quantify causes of impairment & sources of pollution
- b) Estimate pollutant load reductions needed to meet WQ standards
- c) Identify the NPS management measures needed to achieve load reductions
- d) Estimate amount of technical & financial assistance needed, and sources & authorities
- e) Provide a public information and education component
- f) Include a schedule for implementing the NPS management measures
- g) Describe interim, measurable milestones to measure progress
- h) Establish criteria to determine if load reductions being achieved
- i) Provide a monitoring component to determine if progress being made toward attaining or maintaining WQ standards



# Watershed-based Planning Resources

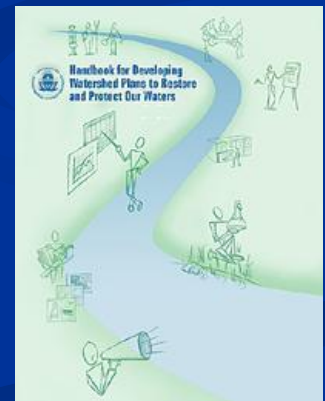
*Guidance for Developing Watershed Action Plans  
in Illinois* (CMAP & IEPA, 2007)

<http://www.cmap.illinois.gov/livability/water/water-quality-management>



*Handbook for Developing Watershed Plans to Restore  
and Protect our Waters* (USEPA, 2005)

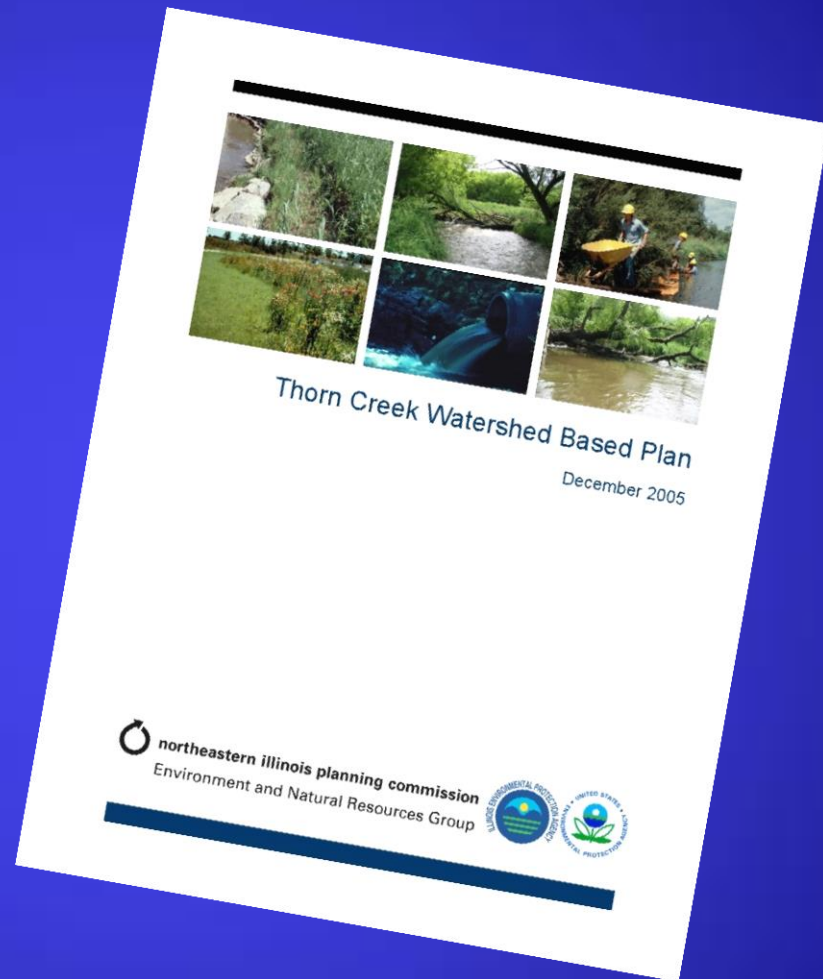
[http://water.epa.gov/polwaste/nps/handbook\\_index.cfm](http://water.epa.gov/polwaste/nps/handbook_index.cfm)



Watershed Academy Web

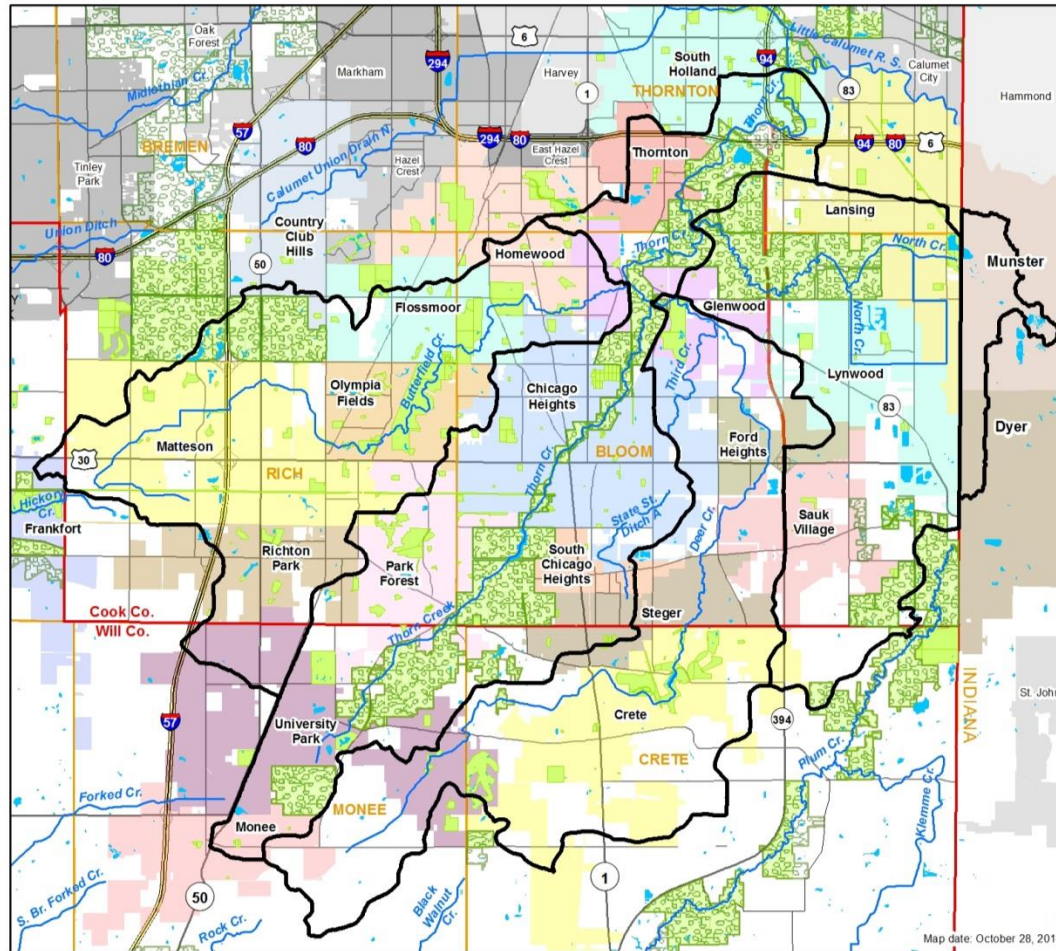
<http://cfpub.epa.gov/watertrain/index.cfm>

# Thorn Creek Watershed Based Plan



<http://www.cmap.illinois.gov/livability/water/water-quality-management/watershed-planning>

## Thorn Creek Watershed



### Legend

- |                                   |                                |
|-----------------------------------|--------------------------------|
| Thorn Creek Watershed Boundary    | Interstate                     |
| Counties                          | Freeway and Expressway (Urban) |
| Townships                         | Other Principal Arterial       |
| Streams                           | Minor Arterial (Urban)         |
| Lakes/Ponds                       | Minor Arterial (Non-Urban)     |
| ForestPres_Cook                   | Collector (Urban)              |
| ForestPres_Will                   | Major Collector (Non-Urban)    |
| Landuse_2010_ThornCreek_OpenSpace | Minor Collector (Non-Urban)    |
|                                   | Ramp                           |

0 2 4 Miles



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Data Sources: Watershed Planning Area - CMAP (2004); County & Township Boundaries - CMAP (2014); Municipal Boundaries - Cook Co. (2014) & Will Co. (2014); Major Roads - IDOT (2011); Streams - Illinois EPA (2004); Waterbodies - National Hydrography Dataset (USGS 2007).

## Thorn Creek Watershed

- 108 sq. miles
  - Illinois: 105 sq. mi.
- 2 Illinois counties
  - Cook & Will
- 6 Illinois townships
  - Thornton, Rich, Bloom, Monee, Crete, Frankfort
- 19 Illinois municipalities
- >65 stream miles

## Tributary Subwatersheds

- Butterfield Creek
  - 25.8 sq. mi.
- Deer Creek
  - 26.5 sq. mi.
- North Creek
  - 23.4 sq. mi.

- Main stem Thorn Creek
- 32.2 sq. mi.



# Thorn Creek Watershed Based Plan – Chapters

## 1. Introduction

- Goals and Objectives (Resource Based, Watershed Coordination)

## 2. Watershed Resource Inventory

## 3. Water Quality Assessment

## 4. Watershed Improvement Plan

- Watershed Management Recommendations for Water Quality Improvement


## 5. Plan Implementation Evaluation

# Watershed Management Recommendations (WMRs)

33 WMRs for water quality improvement

- Policy and Planning BMPs
- Structural BMPs
- Non-structural BMPs

# 2014 Plan Addendum

- More quantitative analysis addressing the most common structural BMPs
    - Pollutant load reductions estimate
    - Planning level implementation costs estimate
- 
- Watershed-wide (not just main stem TC)
  - Better understanding of what it will take to reach clean water goals
  - Support implementation activities



# Addendum Overview

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## 1. Update Existing Conditions Analysis

1. Updated Landuse
2. Pollutant Load Analysis
3. Chloride Analysis

## 2. Stream Assessment

1. Limited Desktop and Field Assessment

## 3. BMP Recommendations

1. Develop a suite of BMPs and estimate water quality improvements and costs



**Phosphorus Load**  
Thorn Creek Watershed

Geosyntec<sup>®</sup>  
consultants

Chicago, IL 10/20/2014

**Phosphorus (lb/ac/yr)**

0.5 - 0.7	0.8 - 0.9	1.0 - 1.1	1.2	1.3
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# Chloride Analysis

- Based on Roadways
- 2011-2012 Salt Application Survey collected by DuPage River Salk Creek Workgroup
- Roadway data from GIS



# Chloride Analysis

**Table 2.4 Chloride Loading Scenarios**

		@-300- lb/lane- mile (tons/year)	@-400- lb/lane- mile (tons/year)	@-500- lb/lane- mile (tons/year)	@-800- lb/lane- mile (tons/year)
	Lane-Miles <sup>1</sup>				
County Roads	199	543	724	905	1,447
Chicago Heights	287	784	1,045	1,307	2,091
Country Club Hills	15	41	55	68	109
Crete	111	303	405	506	809
Flossmoor	83	226	301	377	603
Ford Heights	36	98	130	163	261
Frankfort	4	10	14	17	28
Glenwood	65	179	238	298	476
Homewood	62	169	225	281	450
Lansing	114	311	415	519	830
Lynwood	101	276	368	460	737
Matteson	214	585	780	974	1,559
Monee	28	77	103	129	206
Olympia Fields	94	257	343	429	686
Park Forest	153	418	557	696	1,114
Richton Park	91	248	331	414	663
Sauk Village	80	218	290	363	581
South Chicago Height	45	124	165	206	330
South Holland	50	137	182	228	364
Steger	102	278	371	464	742
Thornton	42	114	153	191	305
University Park	62	169	226	282	452
<b>Total</b>		<b>5,565</b>	<b>7,421</b>	<b>9,276</b>	<b>14,841</b>

# Stream Assessment

## Stream Channel and Riparian Corridor Restoration Opportunity





# BMP Assessment

- Bioretention/Rain garden Opportunity





# BMP Assessment

- Vegetated Swale Opportunity



# BMP Assessment

- Detention Basin Retrofit Example





# BMP Assessment

- Green Roof Example



# BMP Assessment

- Manufactured Retrofit –Filterterra/Bacterra





# BMP Assessment

- Permeable Pavement



# BMP Assessment

- BMP Distributions Identified

**Table 4-1. BMP Distributions**

BMP Type	Urban	Non-Urban
Bioretention/Raingarden	5%	5%
Vegetated Swales	5%	5%
Detention Basin Retrofits	5%	10%
Green Roof	2%	0%
Filtterra	0.5%	0%
Bacterra	0.5%	0%
Permeable Pavement	2%	0%
Total	20%	20%

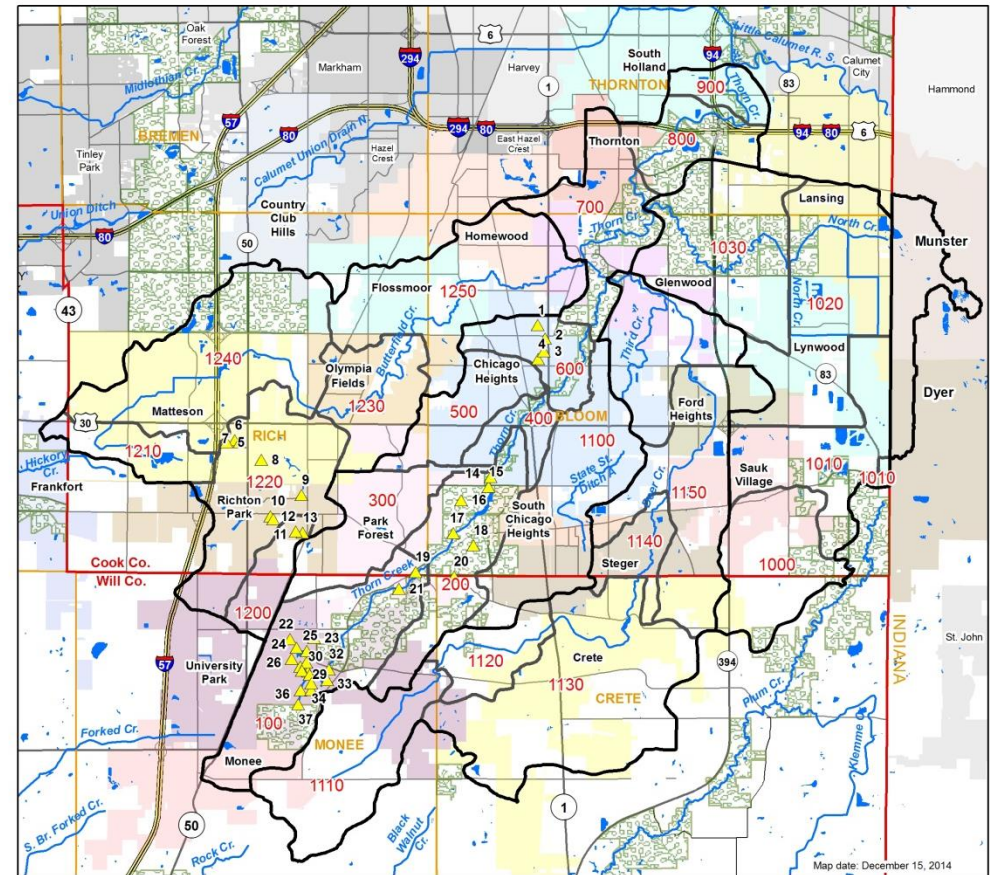
# BMP Assessment

## ■ BMP Reductions and Cost

Subwatershed	Nitrogen Reduction (lb/yr)	Phosphorus Reduction (lb/yr)	Sediment Reduction (t/yr)	Fecal Reduction (B. Col/yr)	Estimated Cost <sup>1</sup>
Indiana	1,579	81	104	6,017	\$ 15,453,610
100	2,328	414	75	6,573	\$ 3,035,165
200	1,322	238	49	5,548	\$ 2,464,718
300	1,554	100	141	5,949	\$ 15,217,705
400	613	37	55	1,997	\$ 5,304,757
500	1,480	84	123	4,777	\$ 12,188,502
600	979	60	72	2,776	\$ 7,703,032
700	1,816	104	111	6,022	\$ 13,651,551
800	936	58	72	2,788	\$ 8,431,349
900	443	29	37	1,592	\$ 4,671,059
1000	1,188	214	49	4,217	\$ 2,269,009
1010	1,825	328	93	5,321	\$ 2,976,128
1020	2,717	172	221	9,577	\$ 27,122,304
1030	2,100	365	87	6,869	\$ 3,682,712
1100	4,439	269	367	13,627	\$ 36,555,356
1110	774	141	23	2,868	\$ 1,508,374
1120	774	140	35	2,960	\$ 1,501,375
1130	2,800	485	108	8,766	\$ 4,775,135
1140	562	36	46	2,321	\$ 6,978,632
1150	2,175	137	164	6,777	\$ 19,515,975
1200	611	101	30	2,057	\$ 961,753
1210	537	34	36	2,127	\$ 6,134,025
1220	2,821	157	217	8,365	\$ 23,500,795
1230	1,191	78	97	4,387	\$ 13,086,410
1240	2,643	165	179	8,918	\$ 26,472,581
1250	3,160	201	268	11,449	\$ 32,713,909
<b>Total</b>	<b>40,208</b>	<b>4,028</b>	<b>2,591</b>	<b>133,196</b>	<b>\$ 265,162,010</b>

# Site-Specific BMPs

## Thorn Creek Watershed Based Plan Addendum - Stakeholder-identified Site-specific BMP Locations



### Legend

- Thorn Creek Watershed Boundary
- Counties
- Townships
- Lakes/Ponds
- Forest Preserve
- Streams
- BMP project locations



Data Sources: Watershed Planning Area - CMAP (2004); County & Township Boundaries - CMAP (2014); Municipal Boundaries - Cook Co. (2014) & Will Co. (2014); Major Roads - IDOT (2011); Streams - Illinois EPA (2004); Waterbodies - National Hydrography Dataset (USGS 2007) & CMAP Land Use (2005).



# 9 Lakes Watershed-Based Plan



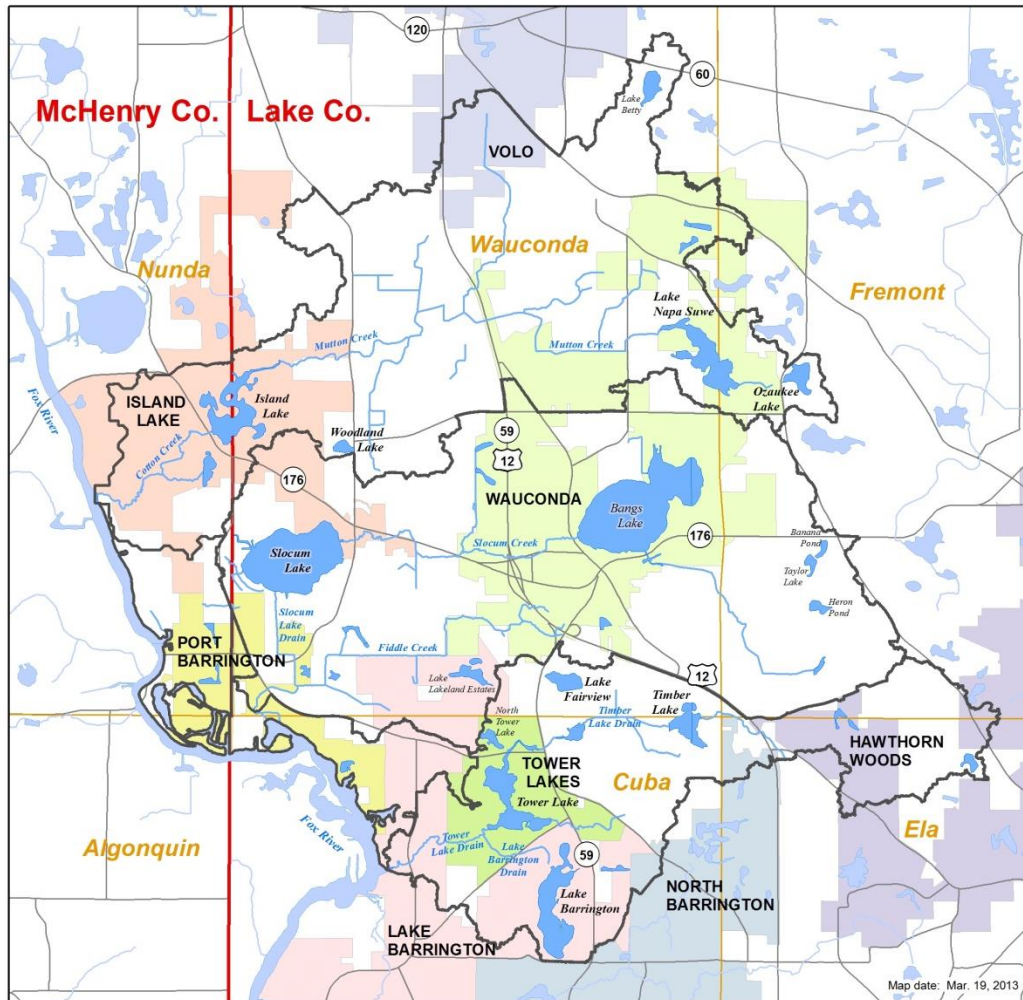
<http://www.cmap.illinois.gov/livability/water/water-quality-management/watershed-planning>

# 9 Lakes Watershed Planning Area

- 29.3 sq. miles
- 2 counties
- 6 townships
- 8 municipalities
- >32 stream miles
- 9 TMDL lakes

## Tributary Subwatersheds

- Cotton-Mutton Creek
  - 10.2 sq. mi.
- Slocum Lake Drain - Fiddle Creek
  - 11.3 sq. mi.
- Tower Lake Drain
  - 5.9 sq. mi.
- Direct Drainage
  - 2.0 sq. mi.



### Legend

- |                       |                  |                 |
|-----------------------|------------------|-----------------|
| 9 Lakes Planning Area | HAWTHORN WOODS   | PORT BARRINGTON |
| County                | ISLAND LAKE      | TOWER LAKES     |
| Township              | LAKE BARRINGTON  | VOLO            |
| Waterbodies           | NORTH BARRINGTON | WAUCONDA        |
| Streams               |                  |                 |
| Major roads           |                  |                 |



Data Sources: Watershed planning area - LCSMC (2012); County & township boundaries - CMAP (2005); Major roads - IRIS (2011); Waterbodies - CMAP (2005); Stream network - USGS National Hydrography Dataset (2007) & Lake County hydro lines (2002); Municipal boundaries - CMAP (2012)



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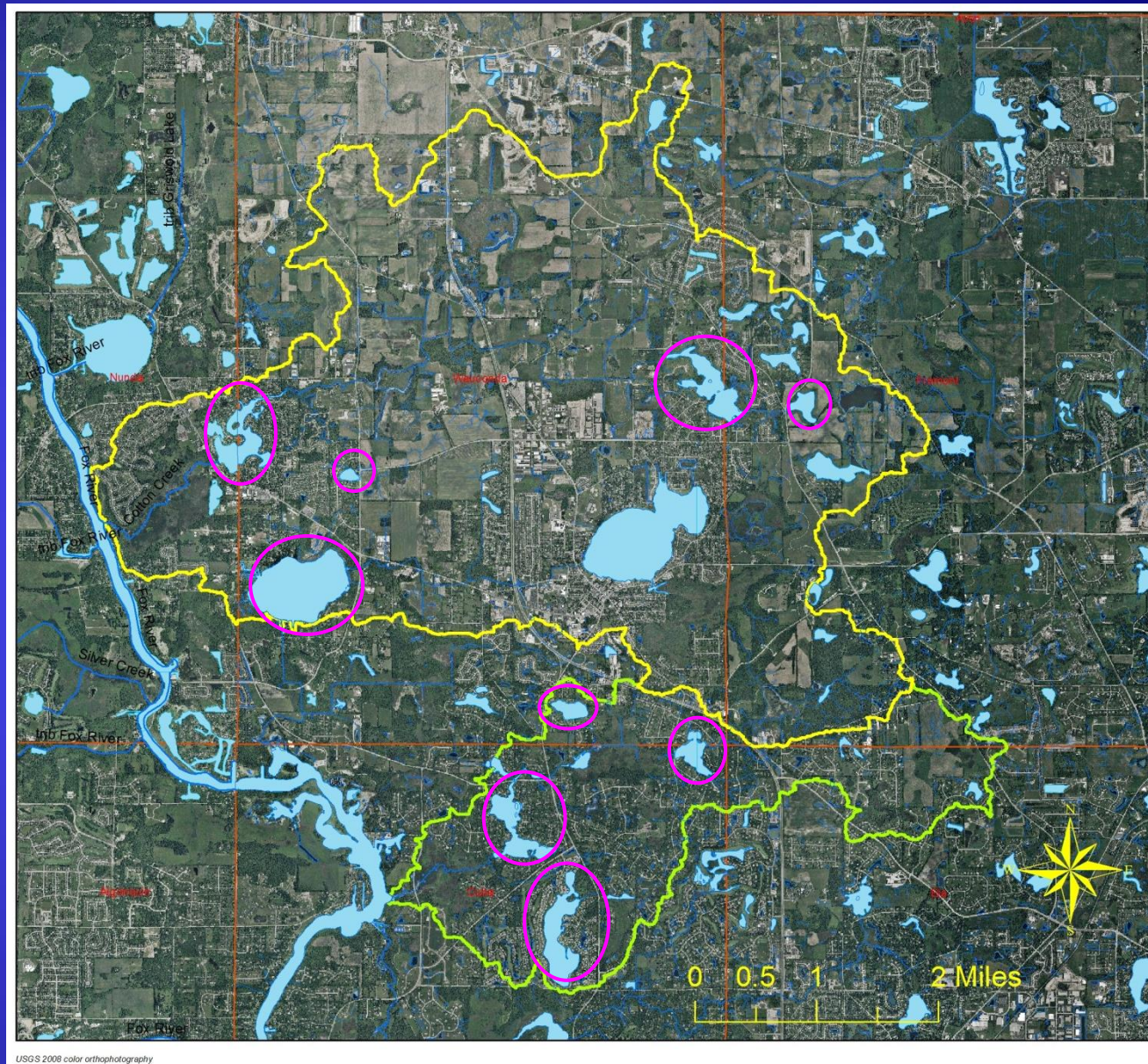


# The 9 TMDL Lakes

Ozaukee Lk - UTI  
Lk Napa Suwe - STO  
Woodland Lk - STV  
Island Lk - RTZI

Slocum Lk - RTP

Timber Lk - RTZQ  
Lk Fairview - STK  
Tower Lk - RTZF  
Lk Barrington - RTZT



Upper Fox River – Flint Creek TMDL Stage 1 Report:

<http://www.epa.illinois.gov/topics/water-quality/watershed-management/tmdls/reports/index>

# Water Quality Impairments in 9 Lakes Planning Area

Waterbody / ID	Surface Area (ac)	Watershed Area (ac)	Impaired Designated Use	Cause of Impairment(s)	Source of Impairment(s)
Island Lake / IL_RTZI	78	5,949	Aesthetic quality	Total phosphorus, TSS	Unknown, On-site treatment systems, Yard maintenance
Lake Barrington / IL_RTZT	91	191	Aesthetic quality	Total phosphorus, TSS, Aquatic plants	Unknown
			Primary contact recreation	Fecal coliform	Unknown
Lake Fairview / IL_STK	20	30	Aesthetic quality	Total phosphorus, TSS, Aquatic plants	Unknown
Lake Napa Suwe / IL_STO	61	1,069	Aesthetic quality	Total phosphorus, TSS, Aquatic plants	Unknown
Ozaukee Lake / IL_UTI	21	66	Aesthetic quality	Total phosphorus, TSS, Aquatic plants	Unknown
Slocum Lake / IL_RTP	211	5,310	Aesthetic quality	Total phosphorus, TSS, Aquatic plants	Contaminated sediments, Agriculture, Urban runoff/ storm sewers, Runoff from F/G/P, Unknown
Timber Lake / IL_RTZQ	33	1,228	Aesthetic quality	Total phosphorus, TSS, Aquatic plants	Unknown
Tower Lake / IL_RTZF	69	3,148	Aesthetic quality	Total phosphorus, TSS, Aquatic plants	Unknown
			Prim. Con. Recr.	Fecal coliform	Unknown
Woodland Lake / IL_STV	8	52	Aquatic life	Total phosphorus, TSS, Dissolved oxygen	Pesticide application, Urban runoff/storm sewers, Runoff from F/G/P, Rural (residential areas)
			Aesthetic quality	Total phosphorus, TSS, Nonnative aquatic plants	Introduction of nonnative organisms (accidental or intentional)
Fiddle Creek / IL_DTRA-W-C1	2.04 miles		Aquatic life	Total phosphorus, Sedimentation/siltation, Chloride, Unknown	Municipal point-source discharges, Site clearance (land (re)development), Unknown



# 9 Lakes Watershed-Based Plan – Chapters

## 1. Introduction

- Problems Statement, Goals, Objectives

## 2. Watershed Resource Inventory

## 3. Water Quality & BMP Pollutant Load Reductions

## 4. Information and Education

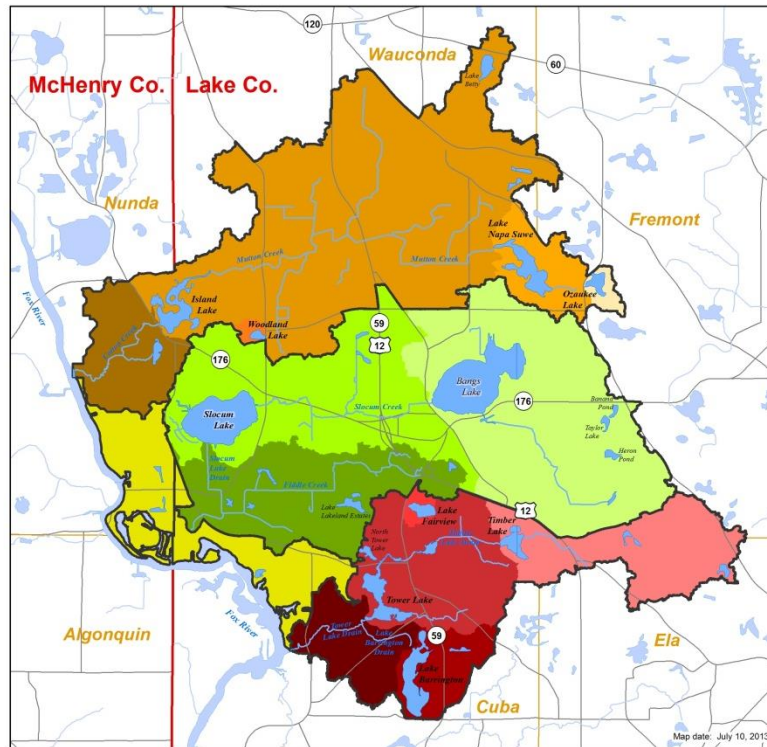
## 5. Monitoring Success

# Watershed Resource Inventory

Physical & Natural Features	Land Use & Population Characteristics	Waterbody & Watershed Conditions	Pollutant Sources	Waterbody Monitoring Data
<ul style="list-style-type: none"> <li>• Watershed boundaries</li> <li>• Hydrology</li> <li>• Topography</li> <li>• Soils</li> <li>• Geology</li> <li>• Climate</li> <li>• Habitat</li> <li>• Fish &amp; Wildlife</li> <li>• Ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• Land use</li> <li>• Land cover</li> <li>• Land mngmnt practices</li> <li>• Demographics</li> </ul>	<ul style="list-style-type: none"> <li>• WQ standards</li> <li>• Impairment status</li> </ul> <p><i>Surface water &amp; Groundwater</i></p>	<ul style="list-style-type: none"> <li>• Point sources</li> <li>• Nonpoint sources</li> </ul> <p><i>NPS pollutant load modeling</i></p>	<ul style="list-style-type: none"> <li>• WQ</li> <li>• Flow</li> <li>• Biological</li> <li>• Geomorphological</li> </ul>

# Pollutant Load Modeling

## 14 Subunits



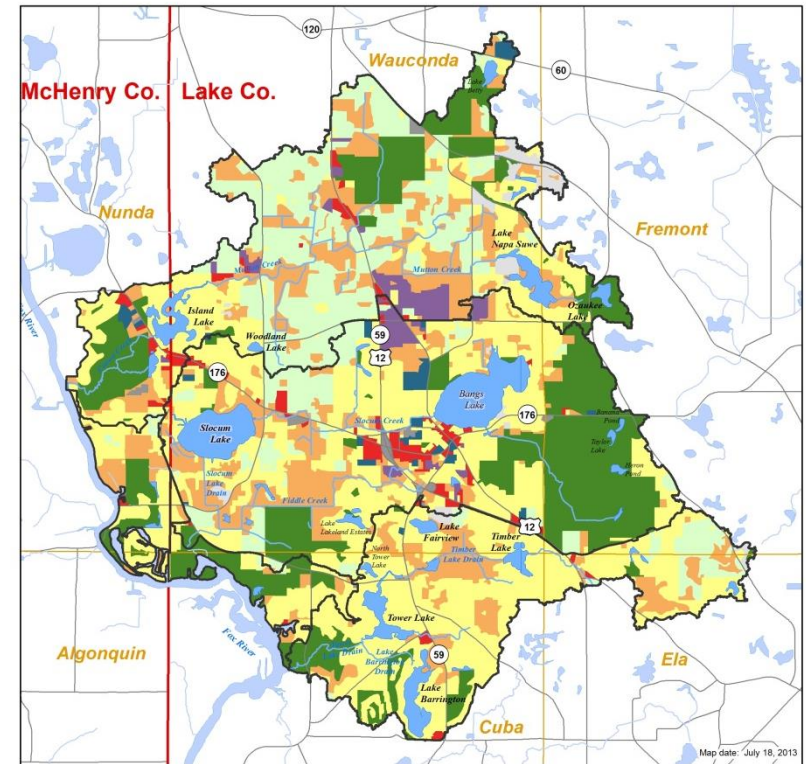
### Legend



Data Sources: Watershed planning area - LCSMC (2012); County & township boundaries - CMAP (2005); Major roads - IRIS (2011); Waterbodies - CMAP (2005); Stream network - USGS National Hydrography Dataset (2007) & Lake County hydro lines (2002); Subunits - CMAP (2013)

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## Land Use



### Legend



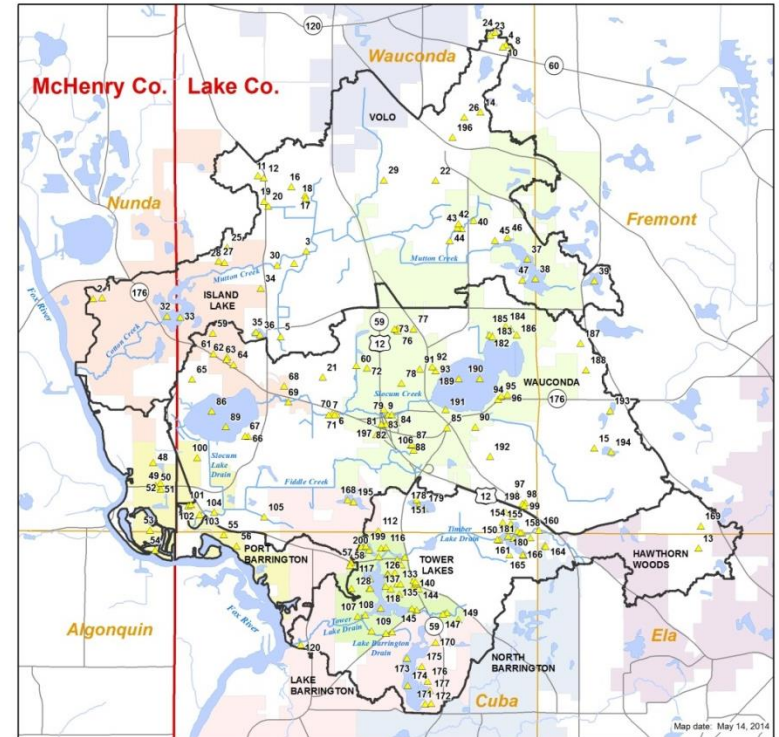
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# Best Management Practices

- Watershed-wide
  - roadside bioswales, streambank stabilization, green roofs, ag field borders
- Site-specific
  - bioswales, shoreline stabilization, grassed waterways, ag & urban filter strips, wetland restoration, det. basin retrofits, parking lot retrofits (incl. porous pavements), bioinfiltration facilities (incl. rain gardens)



Data Sources: Watershed planning area - LCSMC (2012); County & township boundaries, CMAP (2005); Major roads - IRIS (2011); Waterbodies - CMAP (2005); Stream network - USGS National Hydrography Dataset (2007) & Lake County hydro lines (2002); Municipal boundaries - CMAP (2013, 2014)



# BMP Estimated Pollutant Load Reductions

Pollutant load reductions from BMPs compared to incoming/baseline loads for entire 9 Lakes Planning Area

	<b>N (lbs/yr)</b>	<b>P (lbs/yr)</b>	<b>Bacteria (Bcol/yr)</b>	<b>TSS (lbs/yr)</b>	<b>Sediment (tons/yr)</b>	<b>Cl (lbs/yr)</b>
<b>Baseline loads</b>	74,865	7,685	43,353	7,063,987	---	2,235,810
<b>BMP load reductions</b>	9,931	2,342	7,314	1,083,683	794	6,731
<b>Percent reductions from all BMPs</b>	<b>13.3</b>	<b>30.5</b>	<b>16.9</b>	<b>15.3</b>	---	<b>0.3</b>

# BMP Estimated Pollutant Load Reductions and Costs

Summary of pollutant load reductions associated with watershed-wide BMPs

BMP Name	Amount	Unit	Cost (\$)	Sediment (tons/yr)	TSS (lbs/yr)	Phosphorus (lbs/yr)	Nitrogen (lbs/yr)
Ag field borders	46.1	acre	7,842	---	35,849	23	245
Bioswales	117,859	feet	4,950,078	---	275,787	824	4125
Green roofs	45.4	acre	29,664,360	---	14,236	6	339
Streambank stabilization	222,760	feet	35,641,600	702	---	728	1372
<b>Totals</b>			<b>70,263,880</b>	<b>702</b>	<b>325,872</b>	<b>1,581</b>	<b>6,081</b>

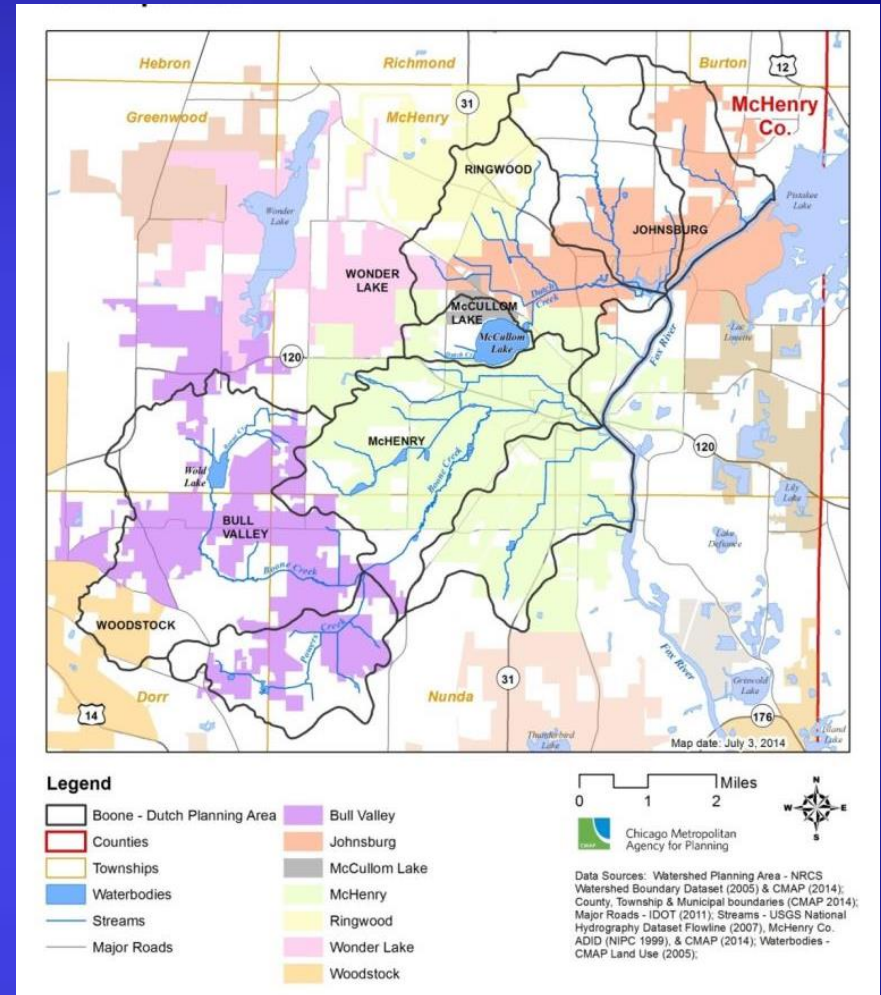


# Next? ... *Action!*

- Local champions
  - Tower Lakes Drain Partnership  
(Timber Lk, Tower Lks, Lk Fairview, Lk Barrington)
  - Island Lake Management Cmte
  - Bangs Lake Advisory Cmte
- Grants & tech. assistance
  - Lake Co. SMC: Watshd Mngmnt Board grants
  - IEPA: 319, PLWIP grants
  - CMAP: LTAP
- Advisors
  - CMAP, Lake Co. SMC, LCHD - LMU

# Boone-Dutch Creek Watershed Planning

- 45.3 sq. miles
  - Boone Crk: 23.5 sq. mi.
  - Dutch Crk: 14.2 sq. mi.
  - Direct drain: 7.6 sq. mi
- 2 yr plng process: 2014-2015
- Boone Creek WRAS (NIPC & BCWA 2003)

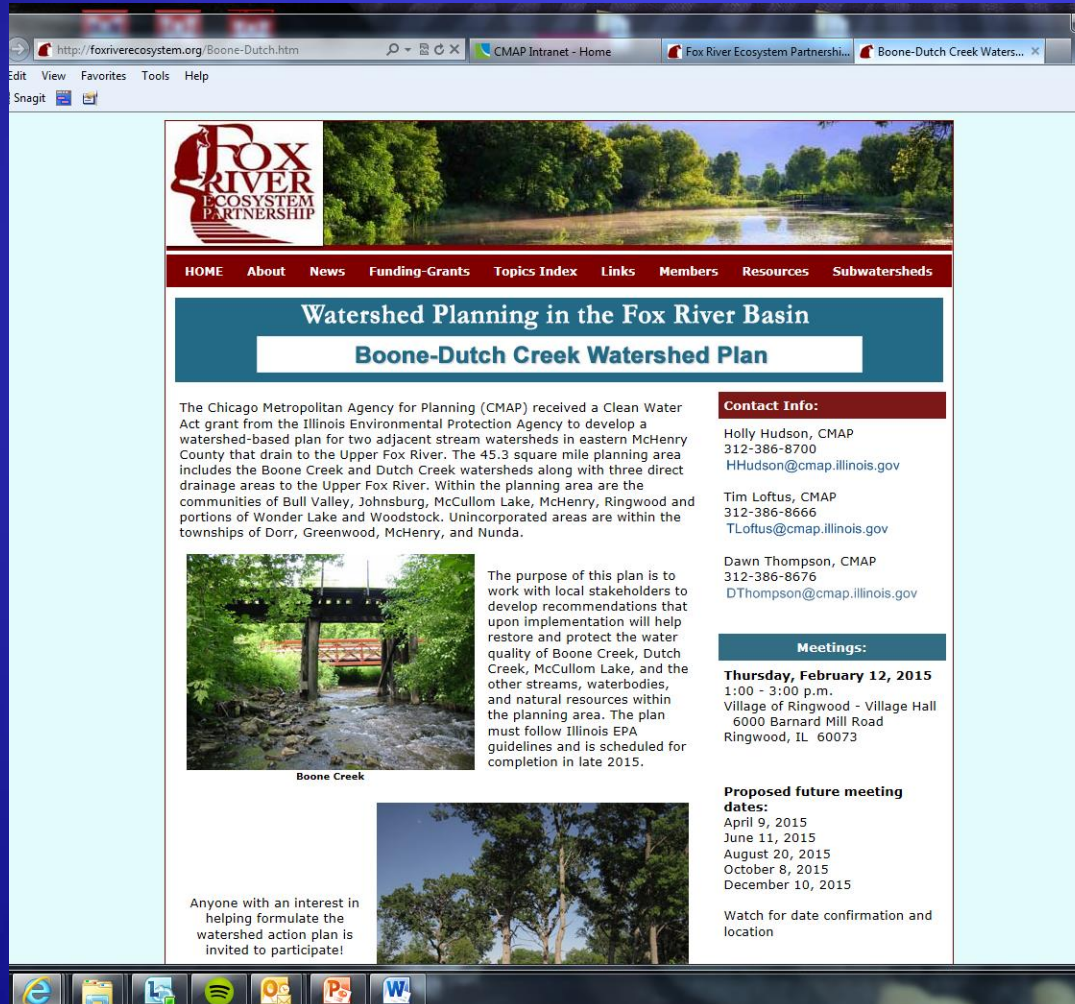


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# Project Webpage

- <http://foxriverecosystem.org/Boone-Dutch.htm>



Challenge:  
Engaging local  
governments,  
other key  
stakeholders



# Watershed-Based Planning & Implementation with Section 319 Grants

- Federal grant program authorized by §319(h) of the Clean Water Act
- Administered by U.S. EPA and Illinois EPA

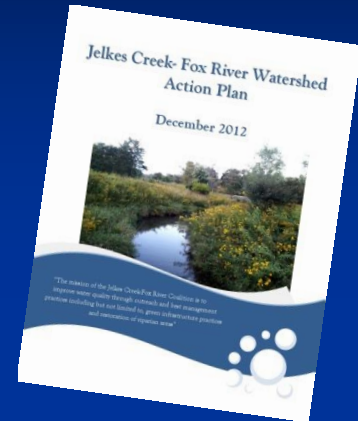


– <http://www.epa.state.il.us/water/financial-assistance/>

# *Types of Eligible 319 Projects*

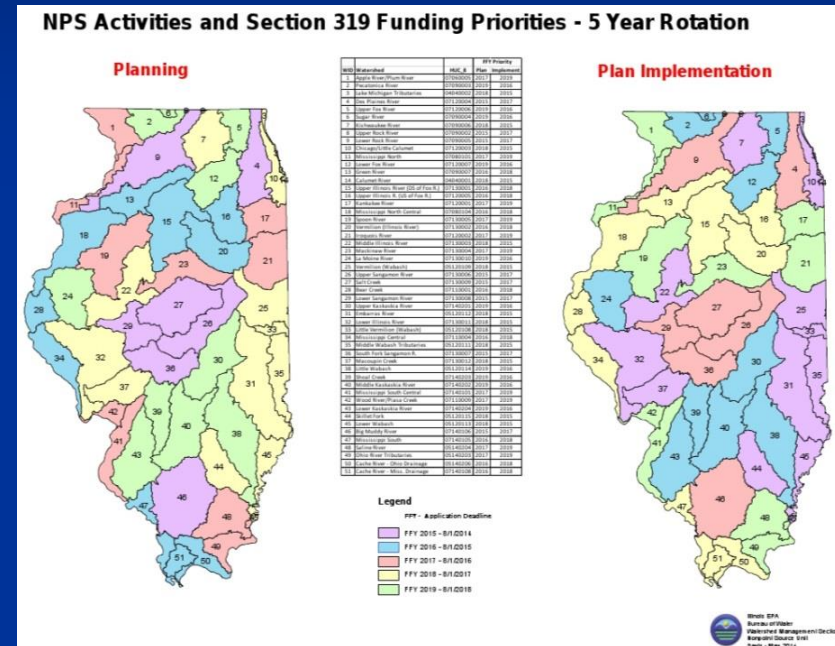
## *High Priority:*

- Development of a watershed-based plan to address NPS pollution
- Implementation of activities identified in an IEPA-approved watershed-based plan (WBP) or Total Maximum Daily Load (TMDL) implementation plan
  - BMP installation
  - NPS WQ modeling
  - Environmental monitoring
  - Social indicator monitoring
  - Outreach activities
  - Updating a watershed-based plan



# Illinois EPA Priority Watersheds

- 51 basins in Illinois
- Each yr, 8-11 basins priority for planning
- 2 yrs later, same basins priority for implementation



<http://epa.state.il.us/water/watershed/publications/nps-pollution/priority-watersheds.pdf>



# Illinois EPA Priority Watersheds

**NPS Activities and Section 319 Funding Priorities - FFY 2015**  
**Application Deadline - August 1, 2014**

### FFY 2015 Priority Watersheds

 Planning  
 Implementation

 Watershed Boundaries[illegible]

**NPS Activities and Section 319 Funding Priorities - FFY 2016**  
**Application Deadline - August 1, 2015**

### FFY 2016 Priority Watersheds

 Planning  
 Implementation



Watershed Boundaries



WQID	Waterbody Name	HUC ID
1	Applegate River Lower	07030001
2	Applegate River Upper	07030002
3	Applegate River	07030000
4	Donkey Creek	07030004
5	Donkey Creek	07030004
6	Upper River	07030005
7	Richards Creek	07030006
8	Upper Rich Creek	07030007
9	Lower Rich Creek	07030008
10	Clatskanie River	07030009
11	Clatskanie River	07030009
12	Clatskanie River	07030009
13	Clatskanie River	07030009
14	Clatskanie River	07030009
15	Clatskanie River	07030009
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100	Clatskanie River	07030009

**NPS Activities and Section 319 Funding Priorities - FFY 2017**  
**Application Deadline - August 1, 2016**

FFY 2017 Priority Watersheds

 Planning  
 Implementation

 Watershed Boundaries[illegible]

**NPS Activities and Section 319 Funding Priorities - FFY 2018**  
**Application Deadline - August 1, 2017**

FFY 2019 Priority: Workbooks

Planning

☐ Watershed Boundary

NO	Botanical Name	Phyt. Soc.
1	<i>Asplenium adnigrum</i>	EPH00001
2	<i>Asplenium alpinum</i>	EPH00002
3	<i>Asplenium ad-nigrum</i>	EPH00003
4	<i>Asplenium ad-nigrum</i>	EPH00004
5	<i>Asplenium ad-nigrum</i>	EPH00005
6	<i>Asplenium ad-nigrum</i>	EPH00006
7	<i>Asplenium ad-nigrum</i>	EPH00007
8	<i>Asplenium ad-nigrum</i>	EPH00008
9	<i>Asplenium ad-nigrum</i>	EPH00009
10	<i>Asplenium ad-nigrum</i>	EPH00010
11	<i>Asplenium ad-nigrum</i>	EPH00011
12	<i>Asplenium ad-nigrum</i>	EPH00012
13	<i>Asplenium ad-nigrum</i>	EPH00013
14	<i>Asplenium ad-nigrum</i>	EPH00014
15	<i>Asplenium ad-nigrum</i>	EPH00015
16	<i>Asplenium ad-nigrum</i>	EPH00016
17	<i>Asplenium ad-nigrum</i>	EPH00017
18	<i>Asplenium ad-nigrum</i>	EPH00018
19	<i>Asplenium ad-nigrum</i>	EPH00019
20	<i>Asplenium ad-nigrum</i>	EPH00020
21	<i>Asplenium ad-nigrum</i>	EPH00021
22	<i>Asplenium ad-nigrum</i>	EPH00022
23	<i>Asplenium ad-nigrum</i>	EPH00023
24	<i>Asplenium ad-nigrum</i>	EPH00024
25	<i>Asplenium ad-nigrum</i>	EPH00025
26	<i>Asplenium ad-nigrum</i>	EPH00026
27	<i>Asplenium ad-nigrum</i>	EPH00027
28	<i>Asplenium ad-nigrum</i>	EPH00028
29	<i>Asplenium ad-nigrum</i>	EPH00029
30	<i>Asplenium ad-nigrum</i>	EPH00030
31	<i>Asplenium ad-nigrum</i>	EPH00031
32	<i>Asplenium ad-nigrum</i>	EPH00032
33	<i>Asplenium ad-nigrum</i>	EPH00033
34	<i>Asplenium ad-nigrum</i>	EPH00034
35	<i>Asplenium ad-nigrum</i>	EPH00035
36	<i>Asplenium ad-nigrum</i>	EPH00036
37	<i>Asplenium ad-nigrum</i>	EPH00037
38	<i>Asplenium ad-nigrum</i>	EPH00038
39	<i>Asplenium ad-nigrum</i>	EPH00039
40	<i>Asplenium ad-nigrum</i>	EPH00040
41	<i>Asplenium ad-nigrum</i>	EPH00041
42	<i>Asplenium ad-nigrum</i>	EPH00042
43	<i>Asplenium ad-nigrum</i>	EPH00043
44	<i>Asplenium ad-nigrum</i>	EPH00044
45	<i>Asplenium ad-nigrum</i>	EPH00045
46	<i>Asplenium ad-nigrum</i>	EPH00046
47	<i>Asplenium ad-nigrum</i>	EPH00047
48	<i>Asplenium ad-nigrum</i>	EPH00048
49	<i>Asplenium ad-nigrum</i>	EPH00049
50	<i>Asplenium ad-nigrum</i>	EPH00050

FFY 2015

## Plng: Des Plaines

Implem: Kishwaukee,  
Chicago/Little  
Calumet, Calumet

FFY 2016

## Plng: Upper Illinois

## Implem: Upper & Lower Fox

FFY 2017

## Plng: Kankakee

## Implem: Des Plaines

FFY 2018

**Plng:** Kishwaukee,  
Lk Michigan Tribs,  
Calumet

## Implem: Upper Illinois

<http://epa.state.il.us/water/watershed/publications/nps-pollution/priority-watersheds.pdf>

# State Revolving Loan Program

- Illinois Clean Water Initiative
  - Stormwater quality / treatment BMP projects now eligible for low-interest loans (in addition to drinking water and wastewater projects)
  - Funding doubled to \$2 billion
  - Local units of government
  - Rolling application process
    - <http://www.epa.state.il.us/water/financial-assistance/clean-water-initiative/index.html>





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